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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,719	07/14/2003	Mark E. Tuttle	M4065.0593/P593-A	4197
24998	7590	01/15/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L STREET NW WASHINGTON, DC 20037-1526			TRAN, MAI HUONG C	
			ART UNIT	PAPER NUMBER
			2818	
DATE MAILED: 01/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,719

Applicant(s)

TUTTLE ET AL.

Examiner

Mai-Huong Tran

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 39-47 and 49-71 are rejected under 35 U. S. C. § 102 (b) as being anticipated by U.S. Patent No. 6,469,879 to Redon et al.

Regarding to claim 39, Redon discloses a method of fabricating a memory element, comprising the steps of forming a first ferromagnetic layer 20 having at least one side wall; forming a second ferromagnetic layer 40 having at least one side wall; and forming a barrier layer 30 between first 20 and second ferromagnetic layer 40; wherein at least one side wall of first ferromagnetic layer extends laterally beyond at least one side wall of second ferromagnetic layer as set forth in cols. 7-8 and figs. 1-3.

Regarding to claim 40, a method wherein at least one side wall of first ferromagnetic layer extends laterally at least about 10 angstroms beyond at least one side wall of second ferromagnetic layer (col. 7, lines 64-67, col. 8, line 1).

Claim 41 is rejected under the same rationale set forth above to claim 40.

Regarding to claim 42, a method wherein first ferromagnetic layer has a thickness of about 20 angstroms to about 100 angstroms (col. 7, lines 64-67, col. 8, line 1).

Regarding to claim 43, a method wherein first ferromagnetic layer has a thickness of about 20 angstroms to about 50 angstroms (col. 7, lines 64-67, col. 8, line 1).

Regarding to claim 44, a method wherein second ferromagnetic layer has a thickness of about 20 angstroms to about 100 angstroms (col. 8, lines 36-37).

Regarding to claim 45, a method wherein second ferromagnetic layer has a thickness of about 20 angstroms to about 50 angstroms (col. 8, lines 36-37).

Regarding to claim 46, a method further comprising the step of forming an antiferromagnetic layer 50 over second ferromagnetic layer (col. 7, lines 24-29).

Regarding to claim 47, a method wherein antiferromagnetic layer has a thickness of about 70 angstroms to about 150 angstroms (col. 7, lines 24-29).

Claim 49 is rejected under the same rationale set forth above to claim 46.

Claim 50 is rejected under the same rationale set forth above to claim 49.

Claim 51 is rejected under the same rationale set forth above to claim 50.

Claim 52 is rejected under the same rationale set forth above to claim 51.

Claim 53 is rejected under the same rationale set forth above to claim 51.

Claim 54 is rejected under the same rationale set forth above to claim 53.

Claim 55 is rejected under the same rationale set forth above to claim 53.

Claim 56 is rejected under the same rationale set forth above to claim 55.

Claim 57 is rejected under the same rationale set forth above to claim 53.

Claim 58 is rejected under the same rationale set forth above to claim 53.

Claim 59 is rejected under the same rationale set forth above to claim 39.

Claim 60 is rejected under the same rationale set forth above to claim 59.

Claim 61 is rejected under the same rationale set forth above to claim 59.

Claim 62 is rejected under the same rationale set forth above to claim 59.

Claim 63 is rejected under the same rationale set forth above to claim 62.

Claim 64 is rejected under the same rationale set forth above to claim 63.

Claim 65 is rejected under the same rationale set forth above to claim 64.

Claim 66 is rejected under the same rationale set forth above to claim 64.

Claim 67 is rejected under the same rationale set forth above to claim 66.

Claim 68 is rejected under the same rationale set forth above to claim 66.

Claim 69 is rejected under the same rationale set forth above to claim 68.

Claim 70 is rejected under the same rationale set forth above to claim 66.

Claim 71 is rejected under the same rationale set forth above to claim 66.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 48 is rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S.

Patnet No. 6,469,879 to Redon et al in view of Ju et al. (6,228,276).

Regarding to claim 48, Redon discloses the claimed invention except for a method wherein antiferromagnetic layer comprises iridium manganese. Ju et al. teach a method wherein antiferromagnetic layer comprises iridium manganese as set forth in col. 10, lines 10-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form an antiferromagnetic layer comprises iridium manganese , as taught by Ju et al. in order to enhance electrical and magnetic properties (col. 4, line 32).

Conclusion

Any inquiry concerning this communication on earlier communications from the examiner should be directed to Mai-Huong Tran, (703) 305-1958. The new phone number after January 8, 2004 will be (571) 272-1796. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM. The examiner's supervisor, David Nelms can be reached on (703) 308-4910.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Mai-Huong Tran



HUAN HOANG
PRIMARY EXAMINER